IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for reducing the probability of formation of deep vein thrombosis during periods of reduced cabin atmospheric pressure experienced during normal aircraft flight, said method comprising: decreasing deep vein thrombosis occurrence during aircraft flight by increasing atmospheric oxygen concentration within an occupant cabin to greater than eighty percent of that which is experienced at standard sea level atmospheric pressure.

2. (Currently Amended) A method for increasing atmospheric oxygen concentration within an occupant cabin of an aircraft, said method comprising:

separating oxygen from ambient air onboard an aircraft thereby establishing a high-concentration oxygen supply; and

dispensing high-concentration oxygen from the supply to an occupant cabin of the aircraft thereby increasing the level of oxygen concentration within the cabin to a level greater than eighty percent of that which is experienced at standard sea level atmospheric pressurethe naturally occurring partial pressure of oxygen at the experienced internal cabin pressure.

3. (Currently Amended) A method for increasing nitrogen concentration within regions of an aircraft, said method comprising:

separating nitrogen from ambient air onboard an aircraft thereby establishing a high-concentration nitrogen supply; and

dispensing high-concentration nitrogen from the supply to fire-susceptible, non-habitable region outside the fuel tank of the aircraft thereby decreasing the capability for the atmosphere therein to support combustion.

4. (Currently Amended) A method for monitoring partial pressure of oxygen in an occupant cabin of the aircraft as well as in the fire-susceptible, non-habitable areas of the aircraft, said method comprising: continuously detecting absolute pressure and oxygen percentage in areas of the aircraft, computing partial pressure of oxygen in those areas and reporting the resulting partial pressure of oxygen values to a central control system.

5. (Currently Amended) A method for controlling the degree of oxygen/nitrogen shift of incoming air in response to the partial pressure of oxygen in areas of the an aircraft, said method comprising: continuously reconfiguring the system pressures and flows in response to reported partial pressure of oxygen values, flight parameters, aircraft configuration and smoke/fire warning status.

6. (Currently Amended) A method for re-mixing the atmosphere in the occupied and unoccupied areas of the an aircraft to quickly re-establish the a natural, at altitude partial pressure of oxygen, said method comprising: introduce the introducing nitrogen rich air stored in the a non-habitable areas area of the aircraft into the an occupied, oxygen enriched areasarea.

7. (Currently Amended) A method for lowering the partial pressure of oxygen below the natural, at altitude level in response to fire in the an habitable areasarea of an aircraft, said method comprising: introduce the introducing nitrogen rich air stored in the a non-habitable areas area of the aircraft into the occupied, oxygen enriched areasarea, in conjunction with directing the an oxygen rich stream from the air separators overboard while directing the a nitrogen rich stream into the habitable areasarea.

8. (Original) A method for adjusting nitrogen and oxygen concentrations within regions of an aircraft, said method comprising:

separating nitrogen from ambient air onboard an aircraft thereby establishing a high-concentration nitrogen supply; and

dispensing high-concentration nitrogen from the supply to a fire-susceptible, non-habitable region outside the fuel tank of the aircraft where the high-concentration nitrogen is reservoired thereby decreasing the capability for the atmosphere therein to support combustion.

9. (Original) The method as recited in claim 8, said method further comprising:

separating oxygen from ambient air onboard an aircraft thereby establishing a high-concentration oxygen supply; and

dispensing high-concentration oxygen from the supply to an occupant cabin of the aircraft thereby increasing the level of oxygen concentration within the cabin to a level greater than the naturally occurring partial pressure of oxygen at the experienced internal cabin pressure.

10. (Original) The method as recited in claim 9, said method further comprising: determining that reduced oxygen concentration is required in the occupant cabin and responsively initiating a remixing of the reservoired high-concentration nitrogen thereby diluting the oxygen concentration in the occupant cabin.

11. (New) The method as recited in claim 3, wherein said non-habitable region outside the fuel tank comprises at least one of a cabling duct, a baggage compartment, a radio rack compartment, and an electrical wiring compartment.

12. (New) The method as recited in claim 11, wherein said non-habitable region outside the fuel tank is a cabling duct.

13. (New) The method as recited in claim 11, wherein said non-habitable region outside the fuel tank is a baggage compartment.

14. (New) The method as recited in claim 11, wherein said non-habitable region outside the fuel tank is a radio rack compartment.

15. (New) The method as recited in claim 11, wherein said non-habitable region outside the fuel tank is an electrical wiring compartment.

16. (New) The method as recited in claim 8, wherein said non-habitable region outside the fuel tank comprises at least one of a cabling duct, a baggage compartment, a radio rack compartment, and an electrical wiring compartment.

17. (New) The method as recited in claim 16, wherein said non-habitable region outside the fuel tank is a cabling duct.

18. (New) The method as recited in claim 16, wherein said non-habitable region outside the fuel tank is a baggage compartment.

19. (New) The method as recited in claim 16, wherein said non-habitable region outside the fuel tank is a radio rack compartment.

20. (New) The method as recited in claim 16, wherein said non-habitable region outside the fuel tank is an electrical wiring compartment.